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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/823,183	04/13/2004	Philippe Lafon	TI-37335 (1962-11200)	3722
23494	7590	12/20/2005	EXAMINER	
TEXAS INSTRUMENTS INCORPORATED P O BOX 655474, M/S 3999 DALLAS, TX 75265			AMIN, JWALANT B	
			ART UNIT	PAPER NUMBER
			2676	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/823,183

Applicant(s)

LAFON, PHILIPPE

Examiner

Jwalant Amin

Art Unit

2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 4/13/2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-30 is/are pending in the application.
- 4a) Of the above claim(s) 1-11, 18-21 and 28-30 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 12-17 and 22-27 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 4/13/2005 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Election/Restrictions

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-11, drawn to a method to combine digital data while in compressed form, classified in class 382, subclass 235.
 - II. Claims 12-17 and 22-27, drawn to a system which performs generic overlay of digital data, classified in class 345, subclass 629.
 - III. Claims 18-21, drawn to a method of blending by adjusting chrominance of compressed data, classified in class 345, subclass 640.
 - IV. Claims 28-30, drawn to a medium of compression by combining chrominance values, classified in class 345, subclass 639.

The inventions are distinct, each from the other because of the following reasons:

2. Inventions I and II are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus of group II as claimed can be used to practice another and materially different process such as that of group III for blending the compressed data by adjusting it's chrominance value.
3. Inventions I and III are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of

operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are clearly defined in the specification as different embodiments having different modes of operation and different functions (see pages 4-5). The differentiation of their embodiments is further supported by the claim language.

4. Inventions I and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are clearly defined in the specification as different embodiments having different modes of operation and different functions (see pages 4-5). The differentiation of their embodiments is further supported by the claim language.

5. Inventions II and III are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus of group II as claimed can be used to practice another and materially different process such as that of group I for combining digital graphics object and digital picture while in compressed format.

6. Inventions II and IV are related as combination and subcombination. Inventions in this relationship are distinct if it can be shown that (1) the combination as claimed does not require the particulars of the subcombination as claimed for patentability, and

(2) that the subcombination has utility by itself or in other combinations (MPEP § 806.05(c)). In the instant case, the combination as claimed does not require the particulars of the subcombination as claimed because invention II is drawn to a system that performs generic overlay of digital data, and invention IV is drawn to a medium for compression by combining chrominance values. The combination is directed to the overall system of combining digital data without specific features required by the systems in each subcombination.

7. Inventions III and IV are unrelated. Inventions are unrelated if it can be shown that they are not disclosed as capable of use together and they have different modes of operation, different functions, or different effects (MPEP § 806.04, MPEP § 808.01). In the instant case the different inventions are clearly defined in the specification as different embodiments having different modes of operation and different functions (see pages 4-5). The differentiation of their embodiments is further supported by the claim language.

8. Because these inventions are distinct for the reasons given above and the search required for each individual group I-IV is not required for the other individual groups I-IV as explained above, restriction for examination purposes as indicated is proper.

9. During a telephone conversation with Mr. Ronald Neerings on December 6, 2005 a provisional election was made with traverse to prosecute the invention of Group II, claims 12-17 and 22-27. Affirmation of this election must be made by applicant in replying to this Office action. Claims 1-11, 18-21, and 28-30 are withdrawn from further

consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Specification

10. The disclosure is objected to because of the following informalities: the term "CHO" is misspelled as "CCHO" (pg. 11, [0035] 2nd last line).

Appropriate correction is required.

Claim Rejections - 35 USC § 102

11. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

12. Claims 12, 16, 22 and 26 are rejected under 35 U.S.C. 102(b) as being anticipated by Horton (US Patent No. 5,969,770).

13. Regarding claim 12, Horton teaches a system (Fig. 1, col. 3 lines 29-32; digital satellite television system corresponds to system) comprising a processor (Fig. 1, col. 5 line 15; satellite receiver with microprocessor corresponds to processor), a memory coupled to the processor (Fig. 1, col. 5 lines 16; "read-only" memory (ROM) corresponds to memory coupled to the processor), and the processor executing a program (Fig. 1, col. 5 lines 15-17; in response to a control program corresponds to executing a program) overlaying a digital graphics object and a digital picture while each

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of the digital graphics object and the digital picture are in compressed format (col. 7 lines 12-17, lines 49-54, lines 57-58, col. 8 lines 4-8, lines 32-35; graphics image corresponds to digital graphics object; video image corresponds to digital picture; 4:2:2 format corresponds to compressed format; "overlay" mode corresponds to overlaying).

14. Regarding claim 16, Horton teaches the processor executing the program (Fig. 1, col. 5 lines 15-17; satellite receiver with microprocessor corresponds to processor; in response to a control program corresponds to executing a program) overlays the digital graphics object and the digital picture while each of the digital graphics object and the digital picture are in a 4:2:2 space format (col. 7 lines 12-17, lines 49-54, lines 57-58, col. 8 lines 4-8, lines 32-35; graphics image corresponds to digital graphics object; video image corresponds to digital picture; "overlay" mode corresponds to overlaying).

15. Regarding claim 22, Horton teaches a computer readable media storing a program (Fig. 1, col. 5 lines 16; "read-only" memory (ROM) corresponds computer readable media) that when executed by a processor (Fig. 1, col. 5 lines 15-17; satellite receiver with microprocessor corresponds to processor; in response to a control program corresponds to executing a program), performs a method comprising overlaying a graphics object onto a picture while both the graphics object and the picture are in a compressed format (col. 7 lines 12-17, lines 49-54, lines 57-58, col. 8 lines 4-8, lines 32-35; graphics image corresponds to digital graphics object; video image corresponds to digital picture; 4:2:2 format corresponds to compressed format; "overlay" mode corresponds to overlaying).

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16. Regarding claim 26, Horton teaches the computer readable media (Fig. 1, col. 5 lines 16; "read-only" memory (ROM) corresponds computer readable media) wherein overlaying further comprises overlaying while both the digital graphics object and digital picture are in a 4:2:2 format (col. 7 lines 12-17, lines 49-54, lines 57-58, col. 8 lines 4-8, lines 32-35; graphics image corresponds to digital graphics object; video image corresponds to digital picture; "overlay" mode corresponds to overlaying).

Claim Rejections - 35 USC § 103

17. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

18. Claims 17 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horton (US Patent No. 5,969,770).

19. Regarding claim 17, Horton teaches the processor executing the program (Fig. 1, col. 5 lines 15-17; satellite receiver with microprocessor corresponds to processor; in

response to a control program corresponds to executing a program) overlays the digital graphics object and the digital picture (col. 7 lines 12-17, lines 49-54, lines 57-58, col. 8 lines 4-8, lines 32-35; graphics image corresponds to digital graphics object; video image corresponds to digital picture; "overlay" mode corresponds to overlaying). Horton does explicitly teach that the digital graphics object and the digital picture are in 4:2:0 space format. However, Horton teaches 4:2:0 space format (col. 7 lines 17-22). Horton also teaches the graphic image sequence and video image sequence needs to be in the same format to insert a graphics image into a video image (col. 7 line 67, col. 8 lines 1-3; graphic image sequence corresponds to digital graphics object; video image corresponds to digital picture; insert corresponds to overlay). At the time the invention was made, it would have been obvious to one of ordinary skill in the art to have the digital graphics object and the digital picture in compressed format 4:2:0, instead of 4:2:2 compressed format as taught by Horton. Applicant has not disclosed that using 4:2:0 compressed format provides an advantage, is used for a particular purpose, or solves a stated problem. One of ordinary skill in the art, furthermore, would have expected Applicant's invention to perform equally well with 4:2:2 compressed format of Horton because the processor workload for processing compressed digital data is significantly lower than that required for processing the same data in uncompressed form, and thus resulting in a better processor performance. Therefore, it would have been obvious to one of ordinary skill in this art to modify the compression format used by Horton to obtain the invention as specified in claim 17.

20. Regarding claim 27, the statements presented above, with respect to claims 17 and 22, are incorporated herein.

21. Claim 13 is rejected under 35 U.S.C. 103(a) as being unpatentable over Horton (US Patent No. 5,969,770) as applied to claim 12 above, and further in view of Yahav et al. (US Patent No. 6,057,909; hereinafter referred as Yahav).

22. Regarding claim 13, Horton discloses all of the claimed limitations as stated above, except that the system comprises of a charge coupled device (CCD) array coupled to the processor, and the processor acquires the digital picture using the CCD array. However, Yahav teaches a CCD array coupled to a video processor (Fig. 10, col. 19 lines 39-44; camera 110 corresponds to the system; video processor 116 corresponds to the processor; matrix array 112 corresponds to the CCD array; image-responsive video signals corresponds to digital picture; receives image-responsive video signals corresponds to acquiring digital picture). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a CCD array of Yahav into the system of Horton to capture the picture by detecting the intensity of radiation reflected from objects in the scene. This picture capturing capability of the system makes it useful in devices such as digital camera, video camera, PDA, and cellular phone.

23. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horton (US Patent No. 5,969,770) as applied to claim 12 above, and further in view of Callway et al. (Pub. No. US 2003/0027517; hereinafter referred as Callway).

24. Regarding claim 14, Horton teaches a radio receiver coupled to the processor receiving at least one of the digital pictures or the digital graphics object through the transceiver (Fig. 1, col. 3 lines 29-32, col. 4 lines 4-7; television signals corresponds to digital picture; antenna assembly corresponds to radio receiver; satellite receiver with microprocessor corresponds to processor; retransmitted television signals are received corresponds to receiving digital picture).

Horton discloses all of the claimed limitations as stated above, except that the receiver is a wireless transceiver. However, Callway teaches a wireless transceiver coupled to a graphics processing circuit that includes a wireless receiver to receive the transmitted data (Fig. 1, pg. 2 [0016] lines 6-9, pg. 5 [0043] lines 8-13, [0045] lines 13-15; radio frequency based wireless transceiver corresponds to wireless radio transceiver; graphics processing circuit corresponds to processor). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the wireless radio transceiver of Callway into the system of Horton so that the system can be used in wireless devices for receiving and transmitting digital data.

25. Regarding claim 15, Horton discloses all of the claimed limitations as stated above, except that the radio transceiver coupled to the processor transmits the digital picture created by the overlaying of the digital graphics object and the digital picture using the transceiver. However, Callway teaches a wireless transceiver coupled to a graphics processing circuit (Fig. 1, pg. 2 [0016] lines 6-9 and [0022] last 5 lines, pg.3 [0024] lines 1-4, pg. 5 [0043] lines 8-13; radio frequency based wireless transceiver corresponds to wireless radio transceiver; graphics processing circuit corresponds to

processor; wireless transmitter corresponds to wireless transceiver; encoding corresponds to compressing; encoded rendered graphics data corresponds to digital graphics object; recompressed decoded video corresponds to digital picture; modulated compressed frames corresponds to digital picture created by the overlaying). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the wireless radio transceiver of Callway into the system of Horton so that the system can be used in wireless devices for receiving and transmitting digital data.

26. Claims 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Horton (US Patent No. 5,969,770) as applied to claim 22 above, and further in view of MacInnis et al. (US Patent No. 6,853,385; hereinafter referred as MacInnis).

27. Regarding claim 23, Horton discloses all of the claimed limitations as stated above, except overlaying comprises overlaying a chrominance value in the graphics object with a chrominance value in the picture based on a weight factor, the weight factor proportional to a number of luminance values in the graphics object having values indicating transparency. However, MacInnis teaches an alpha value included in YUV format dependent on keying (chroma or luma) and luma, which is used to blend a top-layer and a bottom-layer (col. 7 lines 38-41, col. 9 lines 37-40, col. 46 lines 45-56, col. 112 line 1, lines 16-23, lines 32-42 and lines 47-53, col. 120 lines 13-14; alpha/alpha value/composite alpha value corresponds to weight factor; alpha value ... depend on ... alpha from chroma keying ... alpha from Y (luma) corresponds to weight factor proportional to luminance value; composite alpha value based on alpha values per pixel

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corresponds to summation of alpha values of each pixel in the object; when the Y component ... pixel is typically set to be transparent corresponds to weight factor proportional to a number of luminance values in the graphics object having values indicating transparency; video signal/bottom layer corresponds to digital picture; graphics data/top layer corresponds to graphics object; blend corresponds to overlay; the chroma ... from the luma corresponds overlaying a chrominance value; blended corresponds to the digital picture created by overlay). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the method of MacInnis into the system of Horton to overlay the digital graphics object and the digital picture using a weight factor because such a method of overlaying digital graphics object and digital pictures results in a better quality digital picture, and performs this operation with efficient use of processing time.

28. Regarding claim 24, Horton discloses all of the claimed limitations as stated above, except calculating the weight factor contemporaneously with overlaying. However, MacInnis teaches a blending method to maintain an intermediate alpha value at each stage of the blending operation (col. 47 lines 64-66, col. 48 lines 1-1-19, col. 49 lines 12-25; blending corresponds to overlaying; intermediate alpha value/ alpha value corresponds to weight factor; at each stage ... alpha value is maintained corresponds to calculating the weight factor contemporaneously with overlaying; calculated using a keying function corresponds to calculating the weight factor). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the method of MacInnis into the system of Horton to overlay the digital

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graphics object and the digital picture using a weight factor because such a method of overlaying digital graphics object and digital pictures results in a better quality digital picture, and performs this operation with efficient use of processing time.

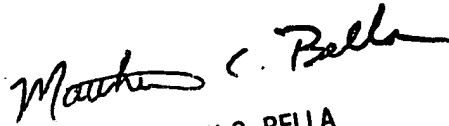
29. Regarding claim 25, Horton discloses all of the claimed limitations as stated above, except prior to overlaying the chrominance values, reading the weight factor from the graphics object. However, MacInnis teaches a blending method in which alpha values can be read from the memory as part of the pixel value (col. 49 lines 12-24; blending corresponds to overlaying; alpha value corresponds to weight factor; pixel value corresponds to the pixel value of the graphics object; being part ... from memory corresponds to read the weight factor prior to overlaying). Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the method of MacInnis into the system of Horton to overlay the digital graphics object and the digital picture using a weight factor because such a method of overlaying digital graphics object and digital pictures results in a better quality digital picture, and performs this operation with efficient use of processing time.

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jwalant Amin whose telephone number is 571-272-2455. The examiner can normally be reached on Monday - Friday 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella can be reached on 571-272-7778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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